

## BPA red v.3

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- Gravity **14 BLG**
- ABV **5.8 %**
- IBU **17**
- SRM **8.8**
- Style **Belgian Pale Ale**

### Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **4 %**
- Size with trub loss **21.6 liter(s)**
- Boil time **60 min**
- Evaporation rate **5 %/h**
- Boil size **23.5 liter(s)**

### Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **2.7 liter(s) / kg**
- Mash size **14 liter(s)**
- Total mash volume **19.2 liter(s)**

### Steps

- Temp **65 C**, Time **1 min**
- Temp **63 C**, Time **40 min**
- Temp **72 C**, Time **10 min**
- Temp **78 C**, Time **5 min**

### Mash step by step

- Heat up **14 liter(s)** of strike water to **71C**
- Add grains
- Keep mash **40 min** at **63C**
- Keep mash **1 min** at **65C**
- Keep mash **10 min** at **72C**
- Keep mash **5 min** at **78C**
- Sparge using **14.7 liter(s)** of **76C** water or to achieve **23.5 liter(s)** of wort

### Fermentables

| Type  | Name                   | Amount         | Yield | EBC |
|-------|------------------------|----------------|-------|-----|
| Grain | Briess - Pale Ale Malt | 3.3 kg (63.5%) | 80 %  | 7   |
| Grain | Viking melanoidynowy   | 1 kg (19.2%)   | 75 %  | 60  |
| Grain | Pilznieński            | 0.9 kg (17.3%) | 81 %  | 4   |

### Hops

| Use for | Name                  | Amount | Time   | Alpha acid |
|---------|-----------------------|--------|--------|------------|
| Boil    | Saaz (Czech Republic) | 30 g   | 60 min | 4.5 %      |
| Boil    | Saaz (Czech Republic) | 10 g   | 15 min | 4.5 %      |

### Yeasts

| Name | Type | Form  | Amount | Laboratory |
|------|------|-------|--------|------------|
| m-21 | Ale  | Slant | 30 ml  | jack       |